

## Intra-amniotic debris predicts early preterm birth in nulliparas with short cervix

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SAN FRANCISCO – Intra-amniotic debris is a strong independent risk factor for early preterm birth in asymptomatic nulliparous women who have a short cervix, finds a study presented at the Pregnancy Meeting, the annual meeting of the Society for Maternal-Fetal Medicine.

In the secondary analysis of 657 women participating in a randomized prevention trial, those who had intra-amniotic debris (sometimes called sludge) on ultrasound were about twice as likely to deliver before 35 weeks' gestation and before 34 weeks, and three times as likely to deliver before 32 weeks.

The women with intra-amniotic debris also had higher odds of giving birth to an infant with perinatal problems, such as a low Apgar score or need for neonatal intensive care admission. But this association vanished after adjustment for gestational age.

"Intra-amniotic debris increases the risk of early preterm birth independently of the cervical length," lead investigator Dr. George R. Saade, professor of obstetrics and gynecology at the University of Texas Medical Branch, Galveston, commented. "Presence of debris is associated with worse perinatal outcome through its effect on preterm birth."

One attendee said, "I'm curious as to whether you have data on infectious complications among women with debris compared to those without, such as chorioamnionitis."

Those analyses are still ongoing, and the mechanism behind the association of debris with preterm birth remains unclear, according to Dr. Saade, who was presenting the study's results on behalf of investigators with the Maternal-Fetal Medicine Units Network of the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

"The rate of severe growth restriction, which we should consider as indicated preterm birth, was actually lower in the group with debris. So it must be something else with the debris that's causing these preterm births," he added.

The women studied were participants in the SCAN trial of progesterone to prevent preterm birth in nulliparous women with a short cervix. All were between 16 and 22 weeks of a singleton gestation and had a cervical length of less than 30 mm on transvaginal ultrasound but no other risk factors for preterm birth.

During the ultrasound to measure cervical length, the sonographer also assessed the presence of cervical funneling and intra-amniotic debris.

All sonographers were trained according to published methods (N. Engl. J. Med. 1996;334:567-72) and certified by central image review before the study, Dr. Saade said, noting that other studies have been limited by a lack of standardized training.

Main trials results, previously reported, showed no significant benefit of progesterone in reducing preterm birth (Am. J. Obstet. Gynecol. 2012;207:390.e1-8).

In the secondary analysis, ultrasound revealed that 24% of the women had cervical funneling, 12% had intra-amniotic debris, and 7% had both.

Relative to other women, women who had funneling and/or debris were older and more likely to be of minority race/ethnicity, and had a higher prepregnancy body mass index. They also were more likely to have had a prior pregnancy loss before 20 weeks' gestation, an older gestational age at trial screening, and a shorter cervical length.

Cervical funneling and intra-amniotic debris were each significantly associated with a higher rate of preterm birth at multiple gestational cutoffs in an unadjusted analysis and in an adjusted analysis that took into account progesterone treatment.

After further adjustment for cervical length, cervical funneling no longer predicted preterm birth at any cutoff. But intra-amniotic debris still predicted preterm birth before 35 weeks (odds ratio, 1.90), before 34 weeks (2.04), and before 32 weeks (3.10).

In absolute terms, 27% of women having intra-amniotic debris on ultrasound delivered before 32 weeks' gestation, compared with just 7% of their counterparts without debris, according to Dr. Saade.

Intra-amniotic debris also was associated with a composite of eight adverse perinatal outcomes in the infant in an analysis adjusted for progesterone treatment. But the association was no longer significant after additional adjustment for cervical length and gestational age.